

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference MN 1583 PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB03/00068	International filing date (<i>day/month/year</i>) 10.01.2003	Priority date (<i>day/month/year</i>) 15.01.2002
International Patent Classification (IPC) or both national classification and IPC C03B5/167		
Applicant JOHNSON MATTHEY PUBLIC LIMITED COMPANY et al.		

1. This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 26.07.2003	Date of completion of this report 09.12.2003
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Boureau, J-L Telephone No. +49 89 2399-8454 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB03/00068**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-3 as originally filed

Claims, Numbers

1-6 received on 15.11.2003 with letter of 13.11.2003

Drawings, Sheets

1/1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-6
	No: Claims	
Inventive step (IS)	Yes: Claims	1-6
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-6
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB03/00068

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The invention relates to a high temperature article comprising a base metal part and a platinum group metal protective layer separated by a diffusion limiting layer which prevents interdiffusion between the protective layer and the metal part .

With regard to known articles having a diffusion limiting layer formed from ceramics (see e.g. DE 43 26 143 A), the purpose of the invention is to improve said diffusion limiting layer while retaining adequate strength of the article, especially when the article is in contact with molten glass.

According to the invention as defined in claim 1, this purpose is achieved by a foraminate platinum group metal structure as a diffusion limiting layer.

The prior art neither discloses nor renders obvious the claimed diffusion limiting layer.

Therefore, claim 1 meets the requirements of novelty and inventive step (Article 33(2)(3) PCT). These requirements are also met by claims 2 to 6 which are appendant to claim 1.

CLAIMS

1. A high temperature article comprising a base metal part and a platinum group metal ("PGM") protective layer, separated by a diffusion limiting layer, characterised in that the
5 diffusion limiting layer is a foraminate PGM structure.
2. An article according to claim 1, wherein the foraminate PGM structure is a fabric made from wire or ribbon.
- 10 3. An article according to claim 1 or 2, where both the PGM protective layer and the foraminate PGM structure are Pt or a Pt alloy.
4. An article according to claim 3, wherein the foraminate PGM structure is a layer of knitted or woven Pt wire or ribbon.
- 15 5. An article according to any of the preceding claims, wherein the base metal part is formed from ODS materials including PM2000, PM1000, MA758, MA956.
6. An article according to any of the preceding claims, in the form of a homogenising or
20 gobbing stirrer or other metallic part for use in a glass furnace.